MYCOTAXON

ISSN (print) 0093-4666 (online) 2154-8889 Mycotaxon, Ltd. ©2017

October–December 2017—Volume 132, pp. 971–975

https://doi.org/10.5248/132.971

Acumispora delicata sp. nov. from the Brazilian Atlantic Forest

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Abstract—A new species, *Acumispora delicata,* collected on decaying leaves of an unidentified plant, is described and illustrated. The new species is distinguished by narrow ovoid to broad obclavate conidia, which are acuminate toward the rounded or obtuse apex. A key and illustrations of *Acumispora* species are provided.

Key words—asexual fungi, neotropic, taxonomy, systematics

Introduction

The genus *Acumispora* was described by Matsushima (1980) and typified by *Acumispora uniseptata* Matsush. It is characterized by conidiophores that are macronematous or micronematous, unbranched or irregular branched, mostly prostrate, sometimes erect, septate, brown or pale brown, sometimes reduced

to conidiogenous cells that are monoblastic, determinate or polyblastic, after several sympodial extensions, integrated or discrete, denticulate. The conidia are solitary, acrogenous or acropleurogenous, navicular, narrow ovoid, obclavate, acuminate or rostrate toward the apex, very pale brown to brown, with a minute basal frill after the rhexolytic conidial secession.

During a mycological survey of microfungi associated with leaf litter in a Brazilian Atlantic forest, a conspicuous fungus was collected. It is described as a new *Acumispora* species.

Materials & methods

Individual collections were placed in plastic bags, taken to the laboratory, and treated according to Castañeda-Ruiz et al. (2016). Mounts were prepared in polyvinyl alcohol-glycerol (8 g PVA in 100 ml water, plus 5 ml glycerol) and lactofuchsin (0.1 g acid fuchsin, 100 ml 85% lactic acid) following Carmichael (1955) or lactic acid (90%). Measurements were made at a magnification of ×1000 under a Nikon Eclipse Ni-U microscope with bright field optics, and photomicrographs were taken using DIC optics with a Nikon DS-Fi2 camera. The holotype was deposited in the Herbarium of Universidade Federal de Pernambuco, Recife, Brazil (URM).

Taxonomy

Acumispora delicata P.M.O. Costa, Malosso & R.F. Castañeda, **sp. nov.** Figs 1, 2B

Index Fungorum IF 554059

Differs from *Acumispora biseptata* by its smaller, 3-septate conidia.

Type: Brazil, Pernambuco, Igarassú, RPPN Refúgio Ecológico Charles Darwin, 7°48′S 34°57′W, on decaying leaves of an unidentified plant, 12.V.2017, coll. P.M.O. Costa (**Holotype**, URM 90134).

Etymology: Latin, *delicata*, means delicate, elegant, graceful.

Colonies on the natural substrate, epiphyllous, slightly funiculose, scattered granulose, yellowish-brown. Mycelium mostly superficial, composed of septate, unbranched, pale yellowish-brown, smooth-walled hyphae, 1–2 µm diam. Conidiophores micronematous, prostrate, mostly reduced to conidiogenous cells. Conidiogenous cells monoblastic, discrete, determinate, lageniform, abruptly tapered, cylindrical at the conidiogenous loci, pale yellowish-brown to pale brown, 4–8 × 3–3.5 µm. Conidial secession rhexolytic. Conidia solitary, acrogenous, narrow ovoid to broad obclavate, acuminate toward the rounded or obtuse apex, straight, 3-septate, smooth, pale yellowish-brown or pale brown, 15–20 × 3–4 µm, dry.

Notes: Four species have been accepted previously in *Acumispora: A. biseptata* Matsush., *A. phragmospora* Matsush., *A. uniseptata*, and *A. verruculosa* Heredia et al. (Heredia et al. 2007, Matsushima 1980). *Acumispora*

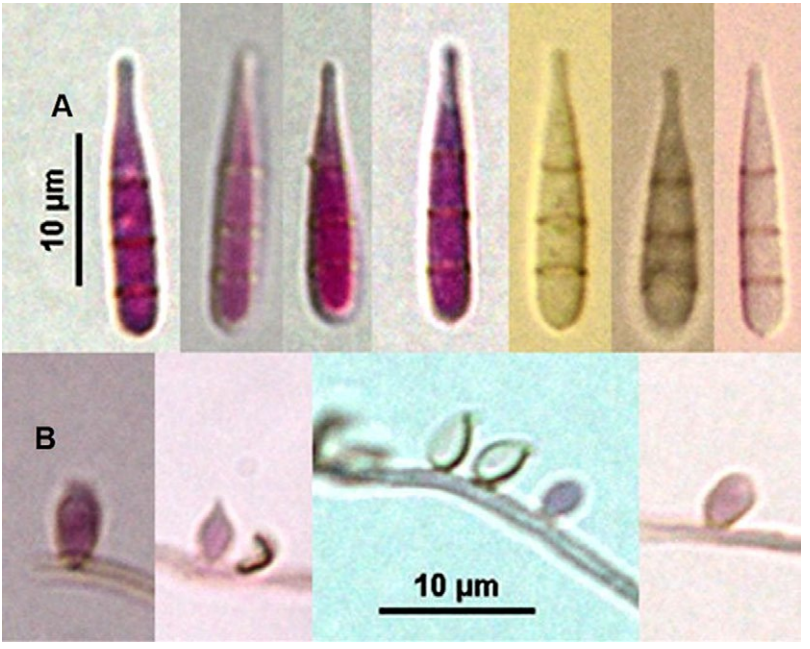

Fig. 1. *Acumispora delicata* (ex holotype, URM 90134). A. Conidia. B. Conidiogenous cells.

delicata resembles *A. biseptata*, which differs by its 2-septate, constricted at the septa, longer (16–25 µm) conidia, with a triangular, elongated, rostrate apical cell. Conidia of the five species are illustrated in Fig. 2.

Key to *Acumispora* species

1. Conidia smooth 2
1. Conidia verruculose (obclavate to slightly ovate, 2-septate, constricted at the septa, 25.4–33.5 × 4.4–5.5 µm) ..... *A. verruculosa*
2. Conidia 1-septate (inequilateral, more or less navicular to slightly obturbinate, with linear-triangular, rostrate apical cell, 23–28 × 5.5–6.5 µm) ... *A. uniseptata*
2. Conidia with more than one septum 3
3. Conidia 2-septate (narrow ovoid with linear-triangular elongated, rostrate apical cell, 16–25 × 4–5 µm) ..... *A. biseptata*
3. Conidia with more than 2-septate 4
4. Conidia 3-septate, narrow ovoid to broad obclavate, acuminate toward the apex, 15–20 × 3–4 µm ..... *A. delicata*
4. Conidia 3–6-septate, cylindrical-fusiform or long navicular, apex acuminate, 20–35 × 4–5 µm ..... *A. phragmospora*

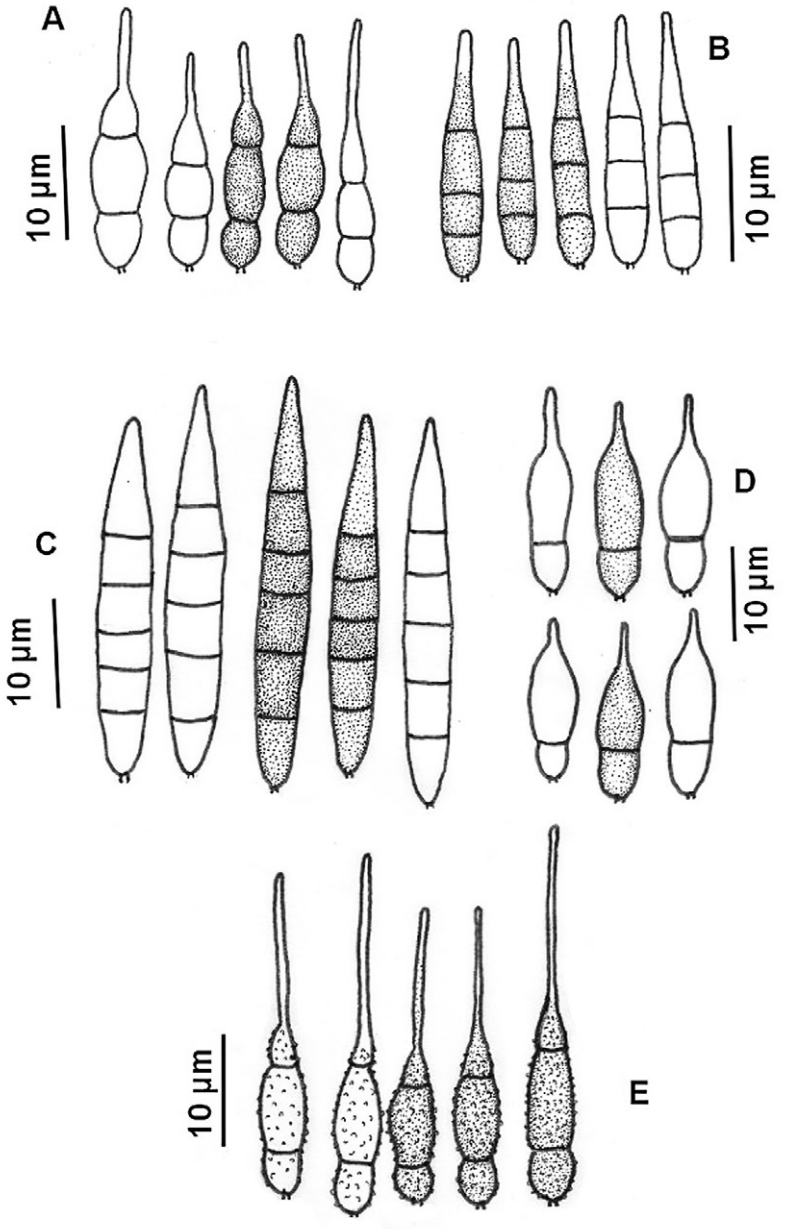

Fig. 2. *Acumispora* spp., conidia: A. *A. biseptata* (Matsushima 1980); B. *A. delicata* (ex holotype, URM 90134); C. *A. phragmospora* (Matsushima 1980); D. *A. uniseptata* (Matsushima 1980); E. *A. verruculosa* (Heredia et al. 2007).

Acknowledgments

The authors express their sincere gratitude to Dr. Xiu-Guo Zhang and Dr. De-Wei Li for their critical review of the manuscript. The authors are grateful to the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) for financial support through Project 88881.062172/2014-01 and the Programa Ciência sem Fronteiras. RFCR is grateful to the Cuban Ministry of Agriculture and Programa de Salud Animal y Vegetal, Project P131LH003033 for facilities. DS is grateful to the Escuela Superior Politécnica del Litoral, ESPOL, (CIBE) for financial support. We acknowledge the facilities provided by Dr. P.M. Kirk and Drs. V. Robert and K. Bensch, through the Index Fungorum and MycoBank websites. Dr. Lorelei Norvell's editorial review and Dr. Shaun Pennycook's nomenclature review are greatly appreciated.

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